

Specification Amendments

[0034] A second block, or blocker, is indicated generally at 68. The bottom 69 of block 68 overlies, in surface abutting engagement, the portion of the right portion of paddle 35 which is not covered by die block 50. As a consequence it will be seen that heat from the induction coil will be confined to the surface of the body-shank portion of the die block by the structural heat blocking members, table 25, backing plate 30, block 60 and blocker 68.

[0035] It will thus be seen that the surface of die block 50 which is to be drawn is in contact over its entire surface area with paddle 35 so that electric heat energy generated by paddle 35 directly strikes die block 50, that is, in the absence of any intervening materials. Further, all portions of the upper surface 33 of paddle 35 which are not covered by the die block have been covered by a blocker so that the upper surface 33 of the paddle is not exposed to the atmosphere. As a consequence, table 25, backing plate 30, block 60 and block 68 form means for confining the heat from the electric heat source to the surface of the body-shank junction portion of the die block.

[0044] The infrared furnace of Figure 6 is a flat panel cold wall furnace; i.e.: only the selected portion of the workpiece, here the body-shank junction portion 87, see Figure 7, of the die block 88, is heated to the desired temperature. The furnace includes structural heat

blocking members comprising a hood, indicated generally at 81, a top 82, depending edge walls 83, 84, tungsten halogen filament heating elements 85, and, in this instance, cooling means indicated at 86, all of which confine comprise means for confining the heat from the electric heat source to the body-shank junction portion of the die block. The furnace utilizes 100 W per linear inch elements 85, which function as means for subjecting said selected portion to heat energy derived from said source 85 of infrared heating. Due to the low thermal mass of the heating elements 85, the furnace is capable of its full heat flux in approximately 2 seconds after start-up. Also, due to its cold wall design, the furnace cools extremely quickly. The furnace includes conventional means such as any simple raising and lowering linkage, not shown in detail for purposes of clarity, for maintaining said selected portion 87 and said source of infrared heating 85 in fixed relationship to one another during subjection of said selected portion 87 to said source of infrared heating 85.